
VACUFLUSH® SANITATION SYSTEM OWNER'S MANUAL

500 *Plus* Series, 1000 Series, Model 706 Toilets

IMPORTANT NOTICE

VacuFlush® sanitation systems must be installed according to Dometic's recommended procedures. Do not attempt installation without first contacting a SeaLand Product certified dealer or Dometic Corporation.



WARNING

This manual must be read and understood before adjustment, maintenance, or service is performed. Modification of this product can result in property damage.

 **Dometic®**



Dometic Corporation • Sanitation Systems
13128 State Rt. 226, P.O. Box 38
Big Prairie, OH 44611-0038 USA
SeaLand Product Hotline 1-800-321-9886
(8:00 a.m. - 5:00 p.m. ET)

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WARNING – HIGH VOLTAGE SYSTEM.
Turn off electrical power before servicing.



WARNING – PUMP STARTS AUTOMATICALLY.
Turn off electrical power before servicing.

PRODUCT FEATURES

Dometic brings the technology, comfort and efficiency of VacuFlush Sanitation Systems in an easy-to-use and easy-to-maintain package.

- **Freshwater Flush**
 - Eliminates the unpleasant sulfide odors which plague saltwater systems.
 - Eliminates the need to draw flush water through the through-hull, seacock and vented loop.
 - Significantly extends life of system components by eliminating saltwater and impurities from accumulating in the system over time.
- **Efficient Design**
 - Consumes a little over a pint of water per flush and allows boat owners to use a small waste tank. The VacuFlush system fills a ten-gallon (28.4 liter) tank in the same time that an electric toilet fills a 40-gallon (113.6 liter) tank.
 - Uses only 4-6 amps per flush on 12 VDC.
- **Delightful Operation**
 - Simple one-lever flush control. No complex instructions needed.
 - Comfortable adult-sized seat.
 - Large water surface maintains clean bowl.
 - Vitreous china bowl.
- **Reliability is Built-In**
 - USCG Certified Type III Marine Sanitation Device.
 - No impellers or macerators – vacuum pump motor can run dry without burning up. No dynamic seals.
 - Vacuum tank and vacuum generator design eliminates clogging problems associated with other systems.
- **Dispose of Sewage Conveniently and Safely**
 - Toilet can be used without discharging sewage into sensitive waters.
 - Holding tank discharge is at a dockside pump or at sea with optional overboard discharge.
 - No portable toilet tanks to haul or dump.
- **Backed by the Best in Service and Quality**
 - The VacuFlush system is from the leader in marine sanitation.
 - Worldwide parts availability and technical backup.

Dometic reserves the right to change specifications without notice.

MARINE SANITATION REGULATIONS

All boats with fixed toilets in U.S. waters and in the waters of some other countries are required to be equipped with an operable marine sanitation device (MSD). The VacuFlush system is a holding tank or Type III system as defined by the U.S. Coast Guard.

Type III systems are designed to permit operation of the toilet without the direct discharge of untreated waste after every flush. This means onboard toilet facilities can be used when the boat is near swimmers, beaches or shellfish beds.

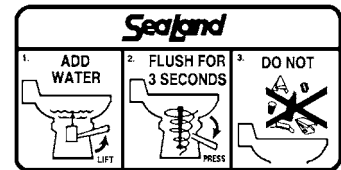
Type III systems can be discharged at marina dockside pump-out stations or, if in coastal waters, a minimum of three miles offshore. **Overboard discharge capability must remain secured while within the three-mile limit.** The overboard discharge pump is activated by a keyed switch located in the toilet compartment. **This key should be removed at all times except when discharge pump is operating.**

Federal legislation has provided grants to private marinas to install dockside pumps especially in coastal water. It is estimated that over 3,500 pump-out stations, in total, will be added due to this legislation.

Sewage from any source should not be discharged directly into our waters. If you are interested in learning more about this issue, please contact SeaLand at the phone number or address listed on the back page of this manual. Request Clean Water Notebook, Volumes 1 and 2.

IMPORTANT INFORMATION BEFORE OPERATION

1. Fill freshwater tank and add deodorant to holding tank through toilet bowl. (See System Start Up Section)
2. Make sure all guests understand the operation of the VacuFlush system and the instruction label is in plain sight and easy for guests to read. **If this label is not included in this manual, please contact the SeaLand Product Customer Service Department immediately.**
3. Remember the vacuum pump starts automatically. Shut off the system before servicing and do not leave the boat with toilet system breaker on.
4. **Never use drain openers, alcohol, solvents, etc. in the system.**
5. If the system does not function properly, refer to the Troubleshooting Section of this manual and repair as necessary. If problem persists, contact your local SeaLand dealer or see the Parts Distributor section of this manual.

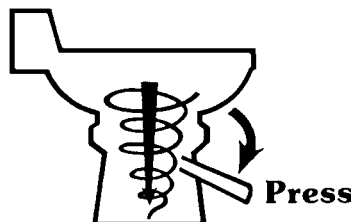


NORMAL OPERATION

1. To add water to the toilet before using, raise flush lever until desired water level is reached. Generally, more water is required only when flushing solids.



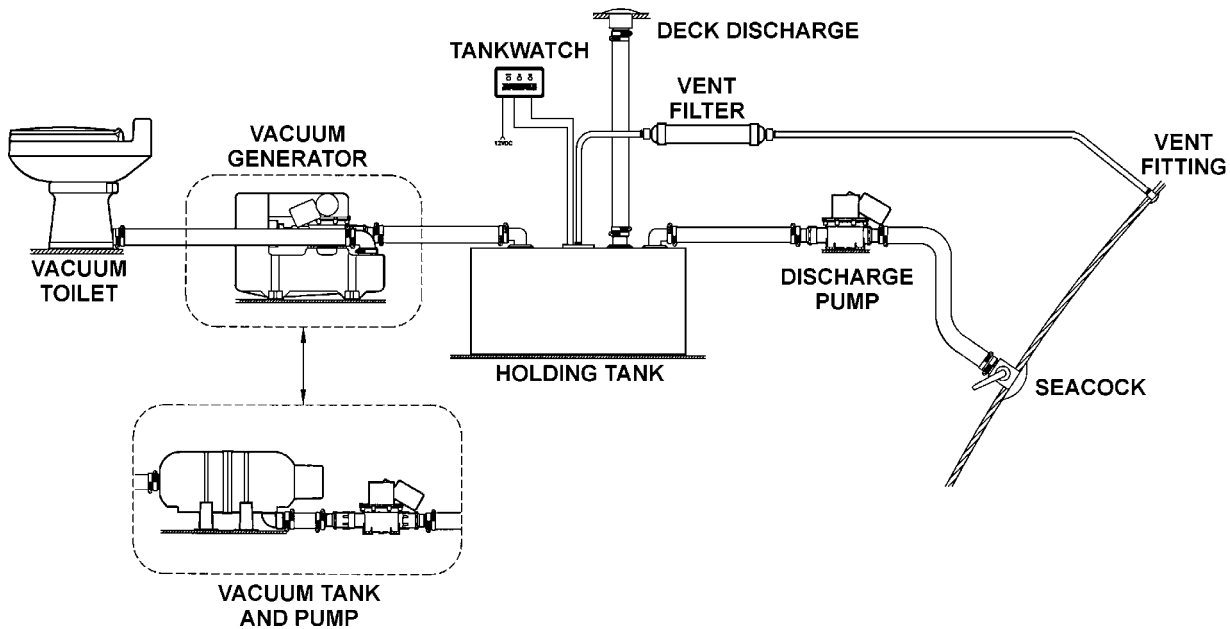
2. To flush toilet, press flush lever sharply down to the floor until contents clear bowl. A sharp popping noise is normal when the vacuum seal is broken and flushing action begins. Be sure to hold lever down for three (3) seconds. If flush lever is accidentally released before waste clears bowl, do not attempt to flush toilet again until vacuum pump stops running. A small amount of water should remain in the bowl after flushing.



3. Do not dispose of sanitary napkins or other non-dissolving items in toilet, such as facial tissue or paper towels. These items can cause plugging of the system. Refer to the Deodorants and Special Tissue section in this manual for more information.



KEY SYSTEM COMPONENTS



Vacuum Toilet: The VacuFlush toilet operates in a way different from other marine toilets. VacuFlush systems use a small amount of water (a little more than a pint or .5 liter) per flush in addition to a simple vacuum. The toilet is connected to a pressurized freshwater system. Fresh water is the key to an **odor-free bathroom compartment**. VacuFlush toilets are equipped with an integral vacuum breaker which prevents the possible contamination of the potable water supply.

Vacuum Tank: The vacuum tank stores vacuum energy. System vacuum level is monitored by a vacuum switch located on the vacuum tank. When this switch senses a drop in vacuum in the system, it automatically signals the pump to energize and bring the vacuum to operating level. This process is normally completed in less than one minute. In a properly operating system, the stored vacuum will slowly dissipate between flushes, permitting the vacuum pump to quickly renew the vacuum.

Vacuum Pump: The vacuum pump is an electric, straight-through bellows type. It is manufactured of long-lasting polypropylene and draws only 4 to 6 amps of current at 12 VDC. This unique pump design is both an efficient air and liquid pump that handles solids without a problem. It has two duckbill valves on each side of the pump chamber to prevent backflow of waste and vacuum.

Vacuum Generator: The vacuum generator combines the vacuum tank and vacuum pump in one unit. It greatly reduces installation time and eliminates the hose run between the tank and pump. Its compact size makes it especially well-suited to smaller crafts.

Holding Tanks: Holding tanks from Dometic are made of super-strong, 3/8" (9.5mm) thick polyethylene — 50% thicker than most other holding tanks. Each unit has a solid, one-piece construction with no seams for unmatched durability. Tanks come in several capacities and shapes. Contact Dometic for details. A deodorant additive is required to keep the holding tank odor-free. See Deodorants and Special Tissue section for further information.

TankWatch® Level Indicator: The TankWatch unit utilizes micro-float switches which activate an indicator panel. The inspection cap in the holding tank contains the micro-float switch units. The adjustable probe assemblies are flexible polybutylene tubing and are designed to flex when tank contents move.

In-Line Vent Filter: Our SaniGard™ vent filter has special odor-removing filter materials to help keep your boat smelling clean and pleasant. Heavier-than-air malodors accumulate in the holding tank. The SaniGard vent filter has a special type of activated filter media to remove these odors before they offend. Each cartridge is good for an entire season, and is easily replaced for a fresh start. Replacement cartridges are available from your local marine dealer.

Dockside Discharge Deck Fitting: The holding tank is connected to a deck discharge fitting. This fitting, in turn, can be connected to a dockside pump which may have a rubber, cone-shaped nozzle or a cam lock fitting. Refer to Accessories section for further information on the NozAll™ fitting which makes using a dockside pump easy and convenient.

Discharge Pump: Our T-series SaniPump™ discharge pump can run dry without harm and draws just 6 amps at 12 VDC. The discharge pump has a flow rate of just over 5.25 gallons per minute (11.4 liters per minute). Emptying an onboard tank usually takes four to six minutes. The T-pump is connected to a through-hull fitting. Check the section on Marine Sanitation Regulations for information on areas where discharge is allowed.

SYSTEM START UP

1. Turn on inlet water supply.
2. Turn on electrical power to system.
3. Flush water into system by depressing flush lever until water starts flowing to the vacuum pump, approximately 15 seconds. The vacuum pump will run for approximately 60 to 90 seconds until system reaches operating vacuum level and then will shut off.

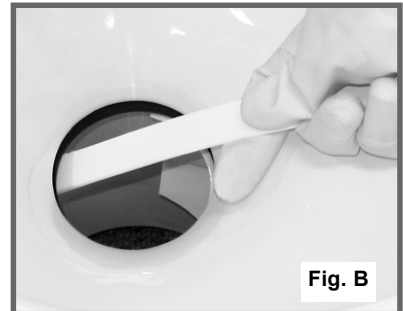
PROPER CLEANING

The SeaLand toilet should be cleaned regularly for maximum sanitation and operational efficiency. You can clean it just as you would a household toilet. **Do not use caustic chemicals, such as drain-opening types, as they will damage the seals.**

BOWL CLEANING: For stubborn stains, use SeaLand® Bowl and Seal Cleaner (Fig. A). It's manufactured especially for use with SeaLand toilets. In certain locations where water is hard, a build-up of lime may dull the toilet bowl finish. Restore the shine with this SeaLand cleaner. If you cannot find it in your area, contact SeaLand for your nearest dealer. If the cleaner is not available, you can also use Bar Keepers Friend® cleanser. It is not necessary to vigorously scrub with either product. Please follow label instructions.



SEAL CLEANING: After an extended time, mineral deposits from hard water can build up under the edge of the rubber bowl seal, resulting in a slow leakdown of water from the bowl. To prevent this mineral build-up, periodically clean under the bowl seal with SeaLand Bowl and Seal Cleaner (Fig. B).



1. Shut off water supply.
2. Apply cleaner onto the seal cleaning tool (supplied with new toilet), open the flush ball by pressing on flush lever, and scrub under the seal. Make sure to push bristles between bottom of seal and top of flush ball surface to scrub all parts of seal that come into contact with flush ball.
3. Close ball and wait 2-3 minutes.
4. Open flush ball. Use brush and water to rinse away cleanser and loosened deposits.

WINTERIZING

At the end of each season, the SeaLand toilet should be winterized for storage, by either draining or using potable water-safe antifreeze in the system.

To drain:

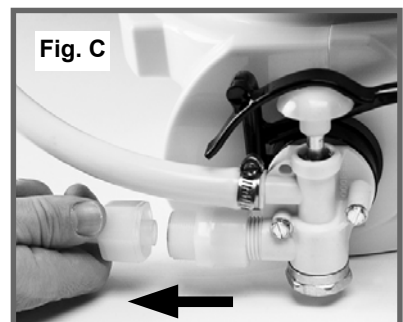
1. Thoroughly flush system with fresh water.
2. Empty holding tank.
3. Shut off water supply to toilet(s), and remove inlet waterline (Fig. C).

Do not remove brass cap on bottom of valve.

4. Press flush lever until all water is drained from toilet(s).

To use antifreeze:

1. Drain potable water tank.
2. Add freshwater antifreeze to potable water tank.
3. Flush potable water antifreeze and water mixture through toilet(s) and into the waste holding tank. Each installation is different, so amounts may vary. User discretion is required to assure adequate protection.
4. Empty holding tank.



NOTE: Use nontoxic antifreeze designated for potable water systems. (See vehicle owner's manual.)

CAUTION: Never use automotive-type antifreeze in freshwater systems.

MAINTENANCE

Maintenance intervals and normal parts replacement vary widely depending on numerous factors such as: type of vessel, frequency of system use, quality of flushing water, etc. The chart below is intended strictly as a general guideline. Owner discretion and consideration of actual usage must be the first basis for determining proper maintenance levels.

Maintenance Procedure	Part Number	Approximate Maintenance Level
Follow cleaning procedures (page 5).	—	Monthly
Tighten all clamps, including base clamp ring.*	—	Annually
Check all wire connections.	—	Annually
Check & tighten water valve mounting screws.	—	Annually
Clean filter screen in water valve.	—	Annually
Check pump and in-line valves.	385310076 (2)	2-3 years or as needed
Check toilet seals.	385316140	3-5 years or as needed
Check vacuum breaker.	385316906	3-5 years or as needed
Check water valve.	385314349	3-5 years or as needed

*See Base Assembly - Page 10.

SPARE PARTS

To calculate total spare parts required, determine number and type of toilets and pumps.

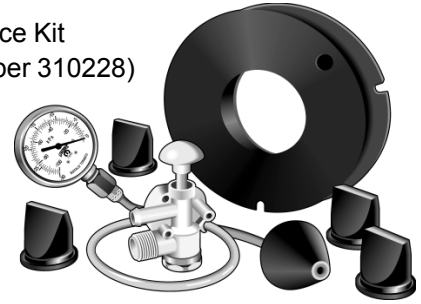
On Board Spare Parts Calculation Chart: (Per System)													
Type of System				Toilet Seal Kit	Toilet Water Valve Kit	S Pump Duckbill Valve Kit	M Pump Duckbill Valve Kit	Toilet Vacuum Breaker	Vacuum Tank Vacuum Switch	Toilet Ring/Clamp Kit	Toilet Ball/Shaft Cartridge Kit	Vacuum Generator Switch Kit	Low-Profile Vacuum Generator Switch Kit
Toilet Series & Quantity	Pump Series & Quantity												
500+ 1000	S	M *											
1		1		1 each	1 each	2 each							
2		2		1 each	1 each	2 each		1 each			1 each		
	1	1		1 each	1 each	2 each							
	2	2		1 each	1 each	2 each		1 each			1 each		
1			1	1 each	1 each		4 each						
2			1	1 each	1 each		4 each	1 each			1 each		
3			1	1 each	1 each		4 each	1 each	1 each	1 each	1 each	1 each	1 each
4			1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
5			1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
6			1	2 each	2 each		4 each	2 each	2 each	2 each	2 each	2 each	2 each
	1			1 each	1 each		4 each						
	2			1 each	1 each		4 each	1 each			1 each		
	3		1	1 each	1 each		4 each	1 each	1 each	1 each	1 each	1 each	1 each
	4		1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
	5		1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
	6		1	2 each	2 each		4 each	2 each	2 each	2 each	2 each	2 each	2 each
Per Vessel: Vacuum Tester – 530002 (1 each) & Owner's Manual – (1 each)													

* M series pump parts information is contained in a separate M-Pump Owner's Manual.

VACUFLUSH MAINTENANCE KIT

The VacuFlush Maintenance Kit contains replacement parts used in routine maintenance of VacuFlush toilets. A "must" for those who cruise to remote locations. The kit includes vacuum tester, water valve, seal kit, duckbill valves (4) and an owner's manual in a convenient storage container.

VacuFlush
Maintenance Kit
(item number 310228)



ORDERING PARTS

Dometic is ready to assist you in the event service is required. Before calling, please have the following information available. Your cooperation in having this information ready is appreciated and allows us to better meet your needs. Please refer to the Parts Distributor list on Page 23.

1. Toilet Model Number (See following section.)
2. Serial Number
3. Part Number, Description and Quantity (See Parts information.)

TOILET MODEL IDENTIFICATION

DOMETIC CORPORATION

P.O. BOX 38, 13128 STATE RT 226 (800) 321-9886
BIG PRAIRIE, OH 44611 USA

MODEL NO. **000**

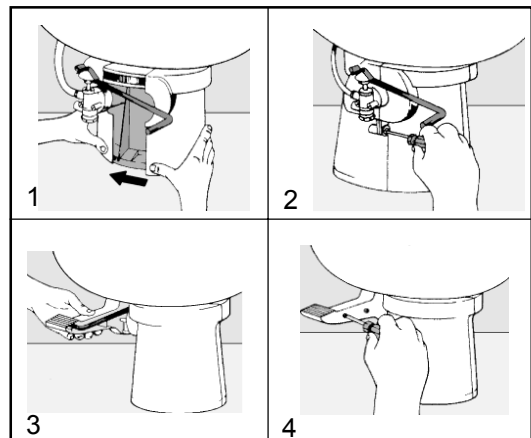
SERIAL NUMBER

000000

The above label is located on the toilet base and will show the model number and serial number. If label is not available, please refer to the Dimensional Specifications section for toilet model identification.

PEDESTAL AND PEDAL COVER INSTALLATION

1. With the pedestal cover open, place the back half against the side of the base opposite the flush lever. Rotate the pedestal cover counterclockwise around the back of the base, then move the front half into place.
2. **Tall base unit only**, secure with mounting screw. For **short base units**, simply snap cover closed.
3. Slide pedal cover onto foot pedal rod.
4. Attach pedal cover side plate and secure with two (2) mounting screws. For **short base units**, secure front screw, then press foot pedal down completely to secure second screw.



DEODORANTS AND SPECIAL TISSUE

Your VacuFlush sanitation system requires the regular addition of a deodorant product to reduce malodors and to help break down holding tank contents. Several factors should be considered in selecting a deodorant product.

Liquid or Granulated: Liquid products obviously work more quickly by readily going into solution. Granulated powder formulations, on the other hand, have the advantage of requiring less storage space and are less likely to leak if the package is inadvertently damaged.

Formaldehyde versus Non-Formaldehyde: Dometic manufactures both types of deodorants. Generally speaking, formaldehyde formulas control odor very effectively at all temperatures and with all degrees of water hardness. SeaLand® Environment-Friendly brand, which is formaldehyde free, is similarly effective.

Environmental Hazards: If you would like further information on the impact of holding tank deodorants, call or write Dometic at the number and address listed on the back page of this manual. Request a copy of Clean Water Notebook, Volume 5, which provides complete information in this regard.

How Much Deodorant and How to Add It: The deodorant is added directly into the toilet bowl, then flushed into the holding tank. Follow bottle or package instructions. Conditions of extremely warm weather, longer waste holding time and larger tank capacities may require more deodorant treatment. Also, to maintain optimum efficiency in odor control, the waste holding tank should be cleaned thoroughly at least once or more each season depending on use.

Why Not Use Household Toilet Paper in Your SeaLand Toilet. Household tissues often contain adhesives which bond together the paper fibers from which the tissue is made. The adhesives prevent the tissue from breaking apart, and their use in "ultra-low flow" systems can cause system clogging. SeaLand tissue is especially designed for use in low water toilet systems. Its rapid dissolving properties minimize the amount of residual paper in the holding tank and allow deodorizers to work more efficiently.

SeaLand versus Other Brands: Dometic constantly strives to provide our system owners with effective products that have minimal environmental impact and good value. Many other deodorant products do not measure up to our standards of performance and value.

SeaLand® Liquid Deodorant

Two 8-oz. bottles

**Part No.
379224008**



SeaLand® Liquid Deodorant - Environment Friendly

32-oz. bottle

**Part No.
379114032**



SeaLand® Granulated Deodorant

Six 2-oz. pouches

**Part No.
379626002**



SeaLand® Cleaner

16-oz. bottle

**Part No.
379314016**



SeaLand® Rapid-Dissolving Toilet Tissue

Four 400-sheet rolls

**Part No.
379441204**



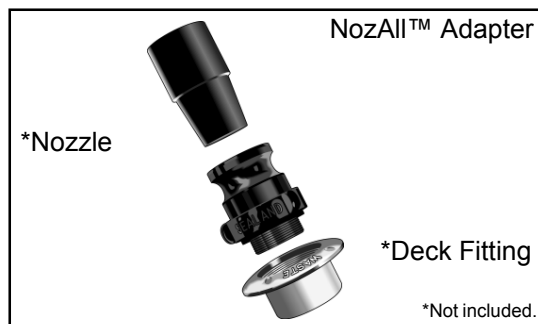
ACCESSORIES

NozAll™ Pumpout Adapter: The NozAll pumpout adapter provides an airtight seal between your boat's deck waste fitting and the pumpout station nozzle. Just screw your personal NozAll adapter into your deck fitting, and be assured of an airtight connection for pumping out holding tank contents. Each item contains a glass-filled nylon NozAll adapter, gasket and vinyl cap. Item number 343502 (1-1/2"-11.5 tpi), 343503 (1-1/4"-11.5tpi), or 343504 (1-1/4"-16tpi).

VacuFlush Status Panel: An ideal add-on to any VacuFlush system. The Status Panel is mounted in the bathroom compartment. A green light indicates sufficient vacuum is available for the next flush. A red light indicates the vacuum level is building and the pump is running. Each panel has an integral circuit breaker which allows the system to be shut down at night. Order part number 500012 (12VDC) or 500024 (24/32VDC).

VacuStat™ Indicator Panel: A desirable accessory for VacuFlush sanitation systems, this panel continuously monitors the status of vacuum for proper toilet operation. Brushed metallic finish complements bathroom decor. Order part number 700012 (12 VDC) or 700024 (24 VDC).

Optional Vacuum Generator Shut-down Relay: This relay can be added to automatically shut down power to the VacuFlush toilet system to prevent overfilling of the onboard holding tank. Order part number 310289 (12 VDC) or 310290 (24 VDC).



*Nozzle

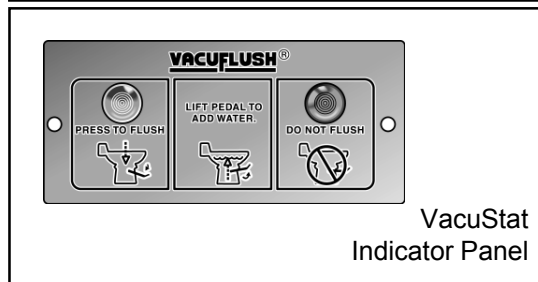
NozAll™ Adapter

*Deck Fitting

*Not included.



VacuFlush Status Panel

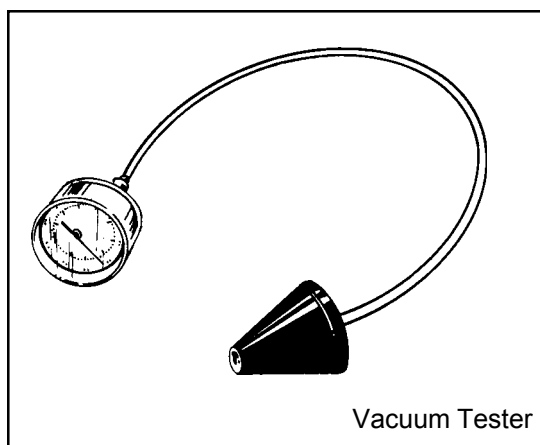


VacuStat Indicator Panel

VACUUM TESTER

Dometic has developed a simple tool to assist in identifying the location of vacuum leaks. The vacuum tester consists of a vacuum gauge and a cone-shaped plug. Inserting the plug in the inlet of the vacuum tank or generator isolates the toilet from the system. In this way a troublesome leak can easily be located in either system.

Order only the Vacuum Tester (Part Number 530002) or as part of the complete system maintenance kit (Part Number 310228).



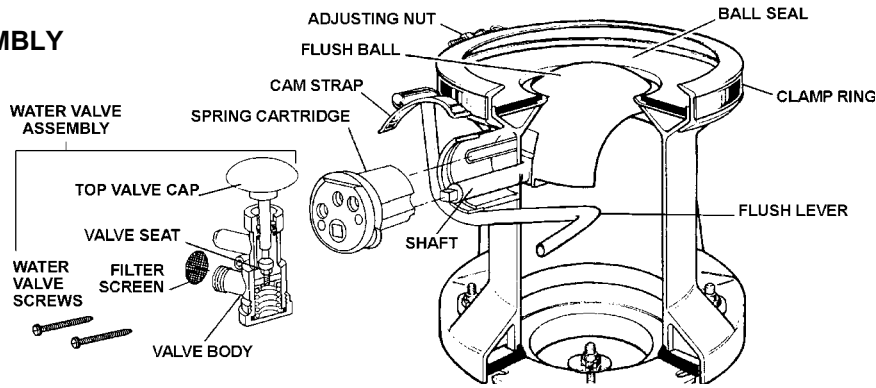
Vacuum Tester

SERVICE TIP

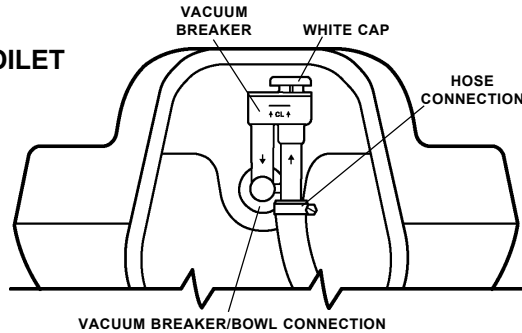
Checking for water leaks behind or under toilets or other appliances can make it difficult to locate the source. Dripping water at room temperature makes it difficult to feel wetness. Taking four or five sheets of toilet tissue and wiping all seams and waterline connections offers a simple means of locating the general area of the leakage. Start at the top of the unit since gravity will cause a leak to run downward. When the tissue comes in contact with the leaking water, it will immediately change texture.

TROUBLESHOOTING GUIDE

BASE ASSEMBLY



REAR VIEW, VACUUM TOILET



Problem	Possible Cause	Service Instructions
1. Water will not stay in bowl.	<ul style="list-style-type: none"> a. Loose clamp ring. b. Improper seal around flush ball due to dirt or debris on underside of ball seal. c. Worn or damaged seal. d. Worn or damaged flush ball. 	<ul style="list-style-type: none"> a. Tighten clamp ring adjusting nut. b. Inspect flush ball and underside of seal for foreign objects. Clean under seal if needed (cleaning tool available – p/n 600344236). c. Replace seal. d. Replace flush ball.
2. Plastic flush ball will not close completely.	<ul style="list-style-type: none"> a. Too much friction between flush ball and ball seal. b. Water valve screws are too tight. c. Defective spring cartridge. 	<ul style="list-style-type: none"> a. Lubricate between flush ball and ball seal with furniture polish or cooking spray. b. Loosen screws slightly. c. Check spring tension by pushing flush lever down, then release it suddenly. If lever does not snap back into original position, replace spring cartridge.
3. Flush ball will not open.	<ul style="list-style-type: none"> a. Broken shaft. b. Shaft not fully engaged in the spring cartridge. 	<ul style="list-style-type: none"> a. Replace shaft. b. Put pressure on shaft from under the flush ball (pushing into spring cartridge) until it engages. You may have to rotate flush ball slightly until shaft lines up with square in spring cartridge.
4. Water does not shut off in toilet (toilet overflows).	<ul style="list-style-type: none"> a. Not enough clearance between cam strap and top of water valve cap. b. Dirt lodged in water valve seal. 	<ul style="list-style-type: none"> a. Adjust cam strap to have .02" (.5mm) minimum clearance with top of valve cap. b. Disassemble and clean water valve.
5. Water does not enter toilet bowl properly.	<ul style="list-style-type: none"> a. Insufficient water flow rate at toilet. b. Water valve clogged. c. Plugged rim wash holes in toilet. 	<ul style="list-style-type: none"> a. Check water flow rate at toilet. Rate should be 2 gpm (7.6 lpm) at toilet. b. Remove and clean screen located at inlet of water valve. c. Clean holes. If still a problem, replace the toilet bowl.

TROUBLESHOOTING GUIDE

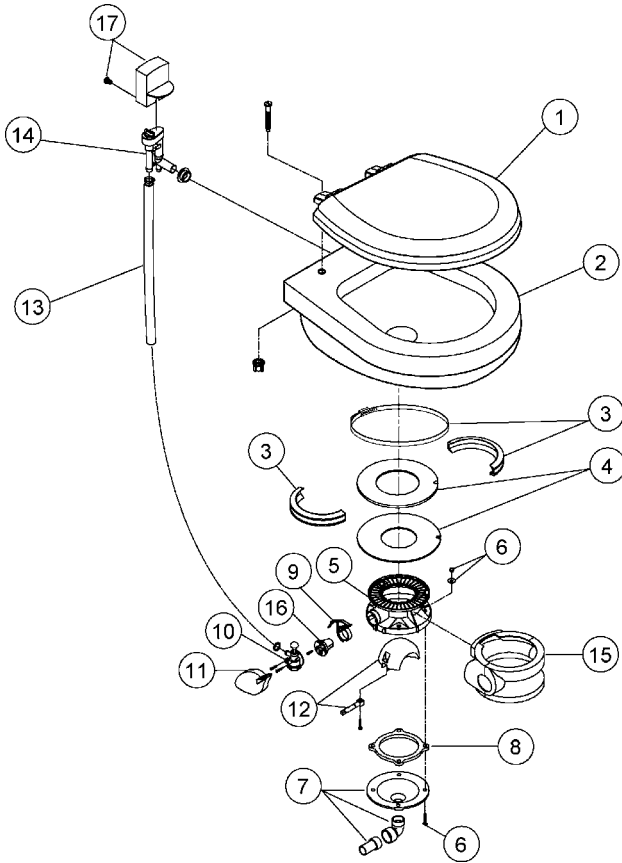
Problem	Possible Cause	Service Instructions
6. Lifting foot pedal does not add water to the bowl.	a. Too much clearance between the cam strap and water valve.	a. Adjust cam strap so clearance is .06 inches (1.5mm) maximum.
7. Water leaking from water valve.	a. Water valve body cracked due to freeze damage. b. Water line connection is loose or not seated properly. c. Defective water valve. d. Stripped threads.	a. Replace water valve. b. Insure that threads are not cross-threaded and tighten. c. Replace water valve. d. Replace water valve.
8. Water leaking from rear of toilet bowl.	a. Worn or defective vacuum breaker. b. Loose vacuum breaker. c. Cracked or defective toilet bowl.	a. Remove white cap from vacuum breaker. Flush toilet. If water leaks during flush, vacuum breaker needs to be replaced. b. Secure vacuum breaker connection. c. Replace toilet bowl.
9. Water is leaking from the base/toilet connection.	a. Clamp ring may be loose. b. Ball seals may be worn or defective.	a. Remove plastic base cover (on applicable models) and tighten the clamp ring. b. Replace ball seals.
10. Vacuum pump running too often between flushes. (See Vacuum Tester Information on page 9.)	a. Water leaks out of bowl between flush ball and ball seal. b. Vacuum line leak.	a. Leave small amount of water in bowl. If water is sucked from bowl, see problems 1 and 2. b. Tighten all connections at toilet, vacuum generator or vacuum holding tank (including hose clamps and threaded spin nuts). If leaks persists, contact SeaLand Product Customer Service.
11. Vacuum pump will not shut off.	a. A vacuum leak exists. b. Insufficient vacuum (pump creates less than 10 inches Hg). c. Faulty vacuum switch (pump creates more than 10 inches Hg). d. Improper wiring. e. Bellows not pumping.	a. See problem 9b. b. Isolate pump and use vacuum gauge to check vacuum levels. Could be a plugged discharge line or worn duckbill valves. c. Replace vacuum switch. d. Refer to wiring diagram to check for proper wiring. e. Tighten set screw in eccentric to motor shaft. Otherwise, check for damage to bellows and motor shaft. Replace if necessary.
12. Vacuum pump will not run.	a. No electrical power. b. Loose or broken electrical wiring. c. Improper electrical connections. d. Faulty vacuum switch. e. Faulty motor. f. Shut-down relay prevents pumping.	a. Check input power, circuit breaker and fuse. b. Tighten or reconnect wires at vacuum pump and tank, vacuum generator, or vacuum holding tank. c. Make certain wires at vacuum switch are connected to the "B" terminals. d. To check vacuum switch, short across "B" terminals with jumper wire. e. Replace motor. f. Empty the holding tank.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Service Instructions
13. Vacuum pump is running too slow, overheating, blowing fuses or circuit breaker.	<ul style="list-style-type: none"> a. Gear motor is worn or defective. b. Plugged vent line or vent filter. c. Blockage in discharge line. d. Improper wire size. e. Improper voltage. f. Vacuum pump bellows clogged with tissue. 	<ul style="list-style-type: none"> a. Check motor and replace if necessary. b. Disassemble and clean out vent line. Replace vent filter if necessary. c. Disassemble and clean discharge line. Be certain that in-line valves (duckbill valves) and seacock are in proper position. d. Wire size too small. Check electrical diagram for proper wire size for voltage of pump used. e. Check input power for low voltage. f. Remove and clean bellows assembly. (When flushing toilet, using more water may alleviate this problem.)
14. Toilet will not flush. (No vacuum.) See problems 3 and 15 if necessary.	<ul style="list-style-type: none"> a. There is a blockage in the system. b. Pump will not run. c. Duckbill valves in vacuum pump are inverted due to blocked discharge line or an attempt to pump out against closed seacock. 	<ul style="list-style-type: none"> a. Open flush ball and check the 1-inch (25mm) orifice at the bottom of the base for blockage and dislodge it. Never use drain-opening or other household plumbing chemicals. If blockage is not in base, it may be found in these locations: <ul style="list-style-type: none"> • outlet of vacuum tank • inlet of vacuum generator • diptube of vacuum generator • inlet of vacuum pump b. See problem 12. c. Replace duckbill valves, making sure they point in the correct direction.
15. Blockage between toilet and vacuum generator.	<ul style="list-style-type: none"> a. Collapsed vacuum line. b. Sharp bends or kinks in vacuum hose. c. Improper operation of toilet. d. Foreign objects were flushed down toilet. 	<ul style="list-style-type: none"> a. Inspect vacuum line for collapsed condition and replace line if needed. b. Inspect vacuum hose for kinks or bends. If less than 8.5-inches (216mm) radius on any bend, reposition hose to achieve minimum 8.5-inch bend radius. c. Make sure each person using toilet knows correct procedure. d. DO NOT flush any non-dissolving items (i.e. sanitary napkins, facial tissue, wet strength tissue, paper towels, etc.) or excessive toilet tissue down toilet. Rapid-dissolving SeaLand brand toilet tissue is best.
16. Pump emits odor.	<ul style="list-style-type: none"> a. Loose or defective hose connection on pump. b. Loose intake or discharge fittings on pump. c. Worn, torn or punctured pump bellows (vacuum generator) or diaphragm (vacuum holding tank). 	<ul style="list-style-type: none"> a. Tighten connections or replace hose and make new connections. b. Tighten intake or discharge fittings on pump. Replace nipples or adapters if necessary. c. Replace pump bellows or diaphragm.

PARTS LIST

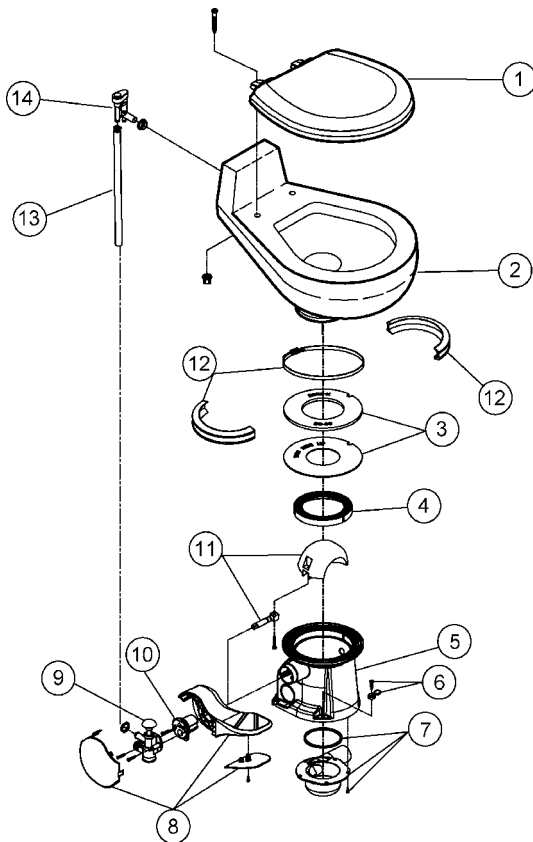
MODEL 706



Item	Part No.	Description
1	385344436 385344437	Seat Assembly, White Seat Assembly, Bone
2	385310676 385310736	China Bowl, White China Bowl, Bone
3	385310048	Ring and Half Clamp Kit
4	385316140	Teflon® and Rubber Seal Kit
*5	385310132 385310133	Base Kit, White Base Kit, Bone
6	385310064	Mounting Kit
7	385318864	Funnel Kit
8	600341549	Floor Flange Seal
9	385310744	Flush Lever Kit (includes item 16)
10	385314349	Water Valve Kit
11	385310117 385310118	Pedal Cover Kit, White Pedal Cover Kit, Bone
12	385318162	Ball, Shaft & Cartridge Kit (includes item 16)
13	600345377 600340177	Supply Hose, White Supply Hose, Bone
14	385316906	Vacuum Breaker Kit
15	385310108 385310109	Pedestal Cover Kit, White Pedestal Cover Kit, Bone
16	385236096	Spring Cartridge Assembly
17	385310696 385310782	Vacuum Breaker Cover, White Vacuum Breaker Cover, Bone

* Includes items 3 through 12, 15 and 16.

MODEL 1147 & 1148

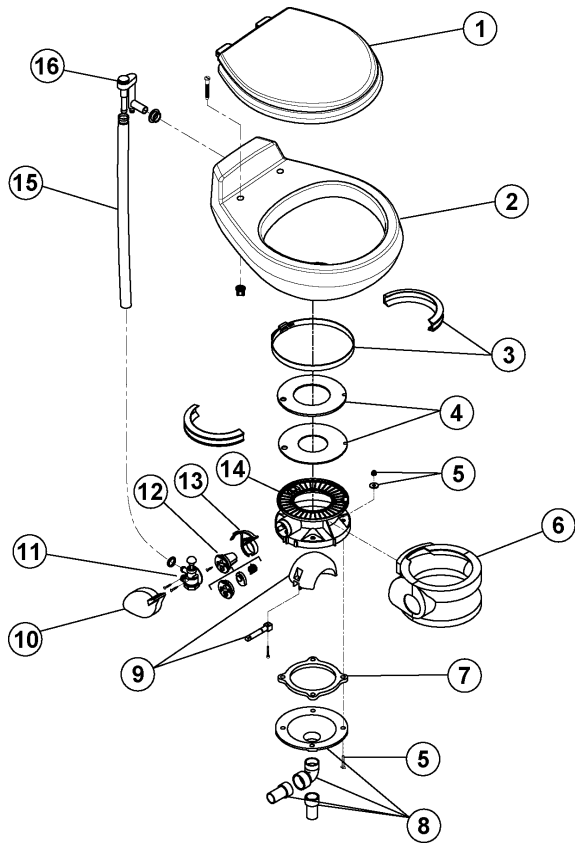


Item	Part No.		Description
	1147	1148	
1	385340590 385340591	385340590 385340591	Seat Assembly, White Seat Assembly, Bone
2	385310615 385310616	385310615 385310616	China Bowl, White China Bowl, Bone
3	385310677	385310677	Teflon® & Rubber Seal Kit
4	600343534	600343534	Base Ring
*5	385310685 385310783	385310686 385310784	Base Kit, Right-hand Discharge - White Base Kit, Right-hand Discharge - Bone Base Kit, Rear Discharge - White Base Kit, Rear Discharge - Bone
6	385310679 385310785	385310679 385310785	Mounting Kit, White Mounting Kit, Bone
7	385310680	385310680	Discharge Kit
8	385310682 385310786	385310682 385310786	Flush Pedal Kit - White (includes item 10) Flush Pedal Kit - Bone (includes item 10)
9	385314349	385314349	Water Valve Kit
10	385310683	385310683	Spring Cartridge Kit
11	385310681	385310681	Ball, Shaft & Cartridge Kit (includes item 10)
12	385310025 385310048	385310025 385310048	Ring & Half Clamp Kit, White Ring & Half Clamp Kit, Bone
13	600345377 600340177	600345377 600340177	Supply Hose, White Supply Hose, Bone
14	385316906	385316906	Vacuum Breaker Kit

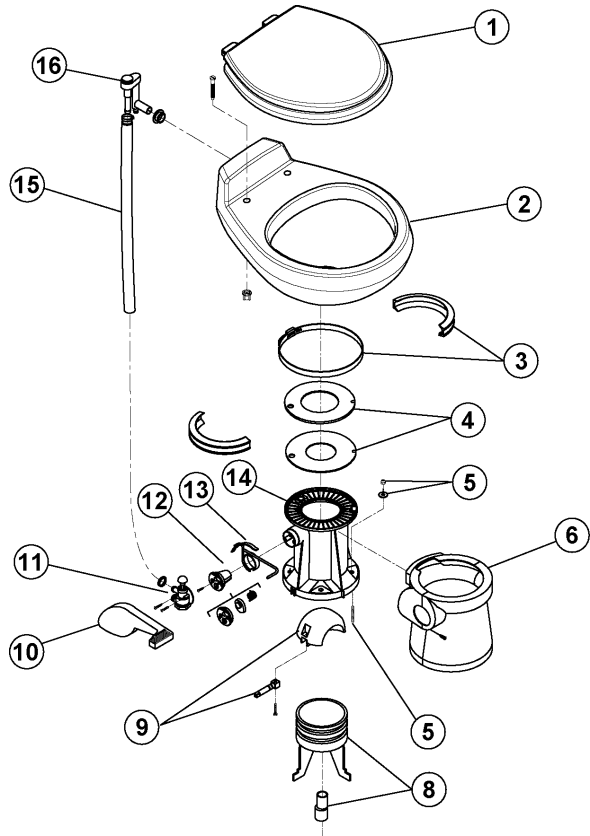
* Includes items 3 through 12.

PARTS LIST

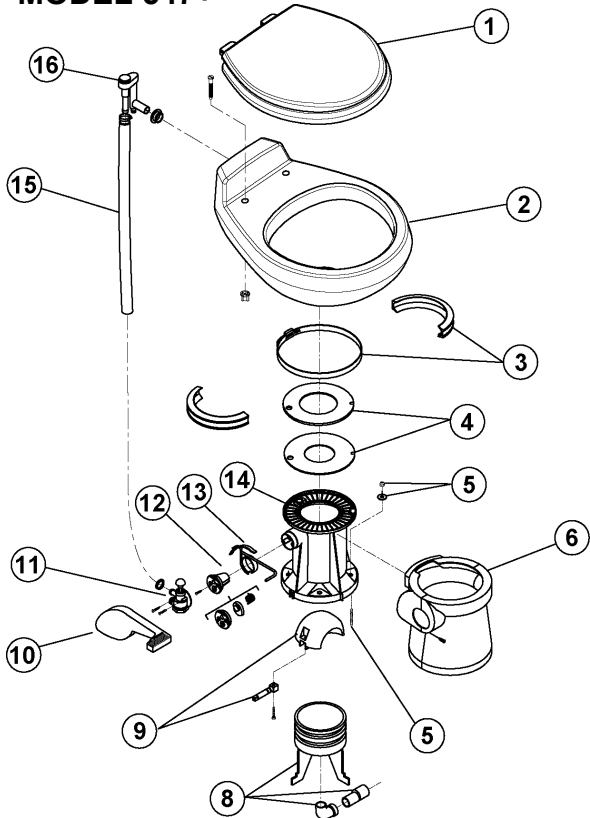
MODEL 506+



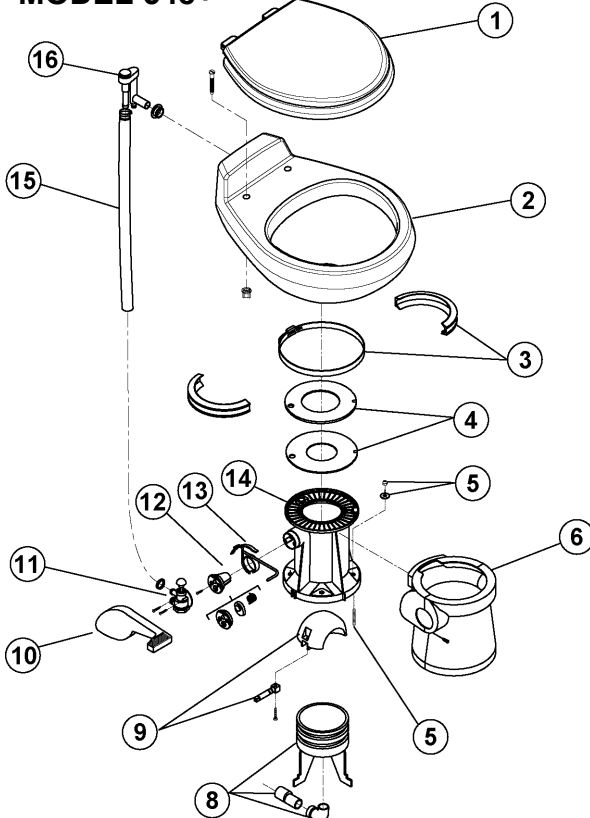
MODEL 508+



MODEL 547+



MODEL 548+



PARTS LIST

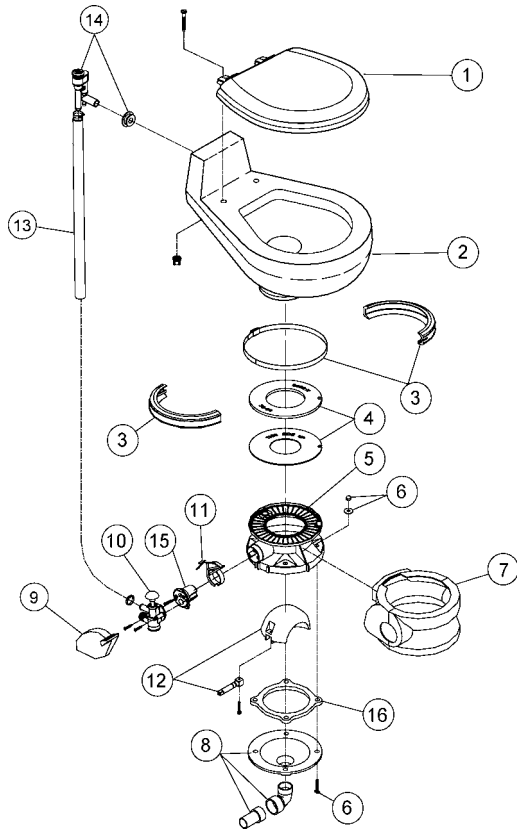
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1	385343830	385343830	385343830	385343830	HushFlush Seat Assembly, White
	385343832	385343832	385343832	385343832	HushFlush Seat Assembly, Bone
	385343898	385343898	385343898	385343898	HushFlush Seat Assembly, Platinum
	385343902	385343902	385343902	385343902	HushFlush Seat Assembly, Ebony
	385343900	385343900	385343900	385343900	HushFlush Seat Assembly, Teal
2	385310739	385310739	385310739	385310739	China Bowl Kit, White
	385310740	385310740	385310740	385310740	China Bowl Kit, Bone
	385310741	385310741	385310741	385310741	China Bowl Kit, Platinum
	385310742	385310742	385310742	385310742	China Bowl Kit, Ebony
	385310743	385310743	385310743	385310743	China Bowl Kit, Teal
3	385310048	385310048	385310048	385310048	Ring & Half Clamp Kit
4	385316140	385316140	385316140	385316140	Teflon® & Rubber Seal Kit
5	385310064	385316323	385316323	385316323	Mounting Kit
6	385310108	385310111	385310674	385310136	Pedestal Cover Kit, White
	385310109	385310112	385310613	385310137	Pedestal Cover Kit, Bone
	385310110	385310113	385310745	385310138	Pedestal Cover Kit, Platinum
	385310600	385310173	385310746	385310174	Pedestal Cover Kit, Ebony
	385310603	385310203	385310747	385310223	Pedestal Cover Kit, Teal
7	600341549	NA	NA	NA	Floor Flange Seal
8	385318864	385318741	385318741	385318741	Funnel Kit
*9	385318162	385318162	385318162	385318162	Ball/Shaft/Cartridge Kit, White/Bone/Plat.
	385310177	385310177	385310177	385310177	Ball/Shaft/Cartridge Kit, Ebony
	385310188	385310188	385310188	385310188	Ball/Shaft/Cartridge Kit, Teal
10	385310117	385310114	385310114	385310114	Pedal Cover Kit, White
	385310118	385310115	385310115	385310115	Pedal Cover Kit, Bone
	385310119	385310116	385310116	385310116	Pedal Cover Kit, Platinum
	385310593	385310175	385310175	385310175	Pedal Cover Kit, Ebony
	385310596	385310193	385310193	385310193	Pedal Cover Kit, Teal
11	385314349	385314349	385314349	385314349	Water Valve Kit
12	385236096	385236096	385236096	385236096	Spring Cartridge Assembly
13	385310744	385310578	385310578	385310578	Flush Lever Kit (includes item 13)
†14	385310943	385310126	385310665	385310129	Base Kit, White
	385310133	385310127	385310614	385310130	Base Kit, Bone
	385310134	385310128	385310748	385310131	Base Kit, Platinum
	385310607	385310171	385310749	385310172	Base Kit, Ebony
	385310610	385310213	385310750	385310218	Base Kit, Teal
15	600345377	600345377	600345377	600345377	Supply Hose, White
	600340177	600340177	600340177	600340177	Supply Hose, Bone
16	385316906	385316906	385316906	385316906	Vacuum Breaker Kit

* Includes item 12.

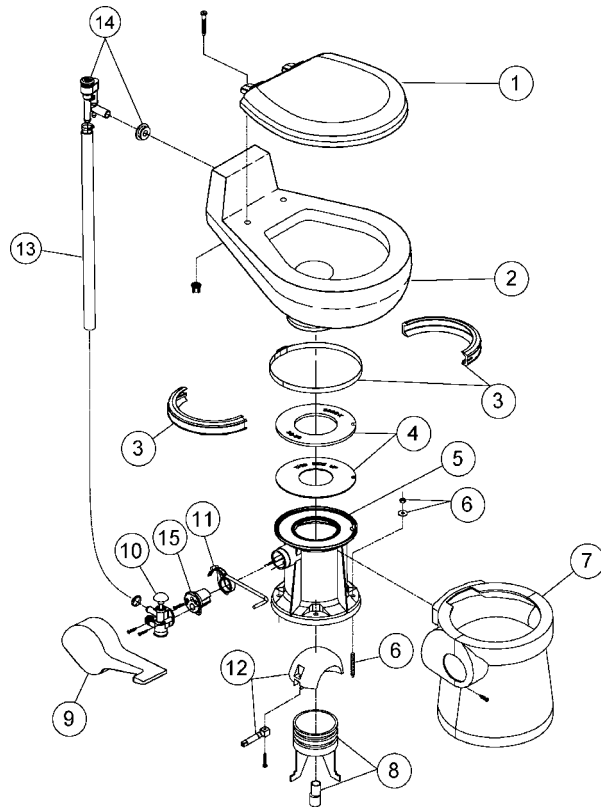
† Includes items 2 through 14.

PARTS LIST

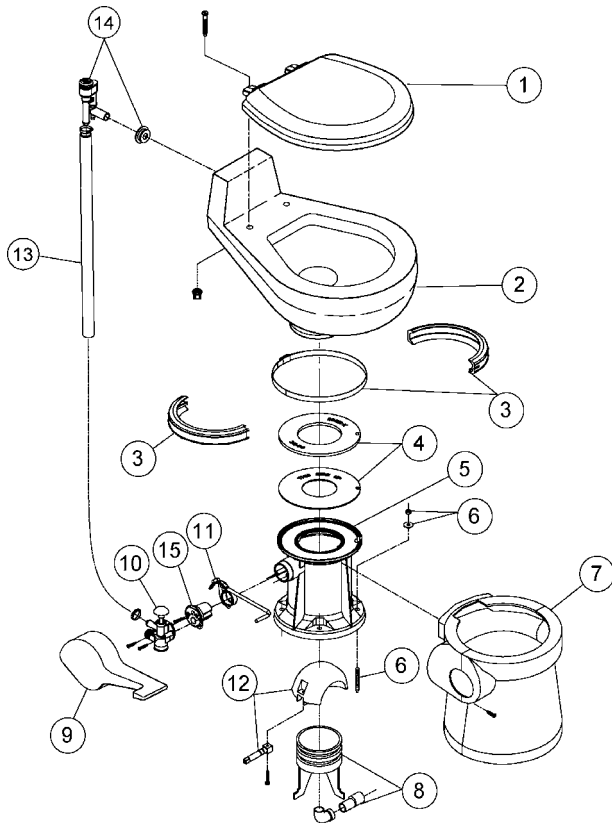
MODEL 1006



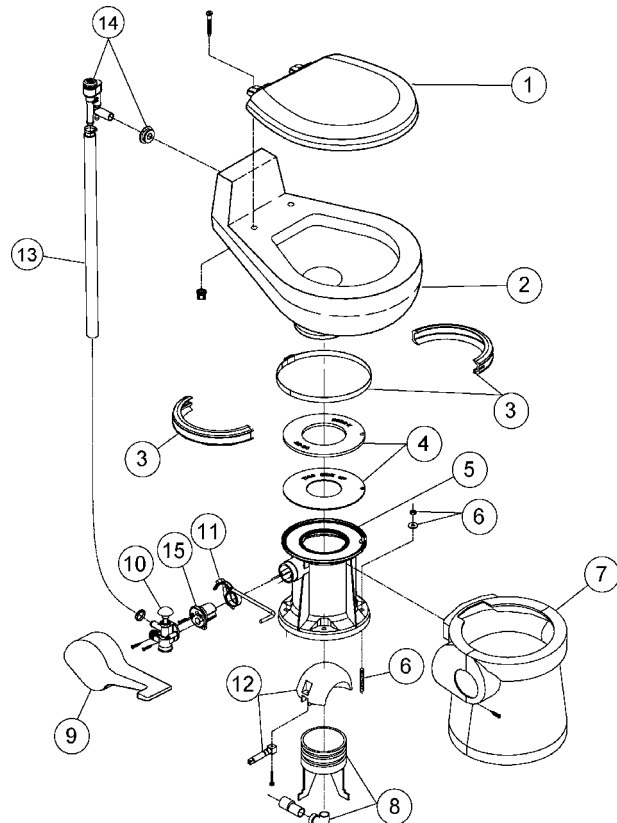
MODEL 1008



MODEL 1047



MODEL 1048



PARTS LIST

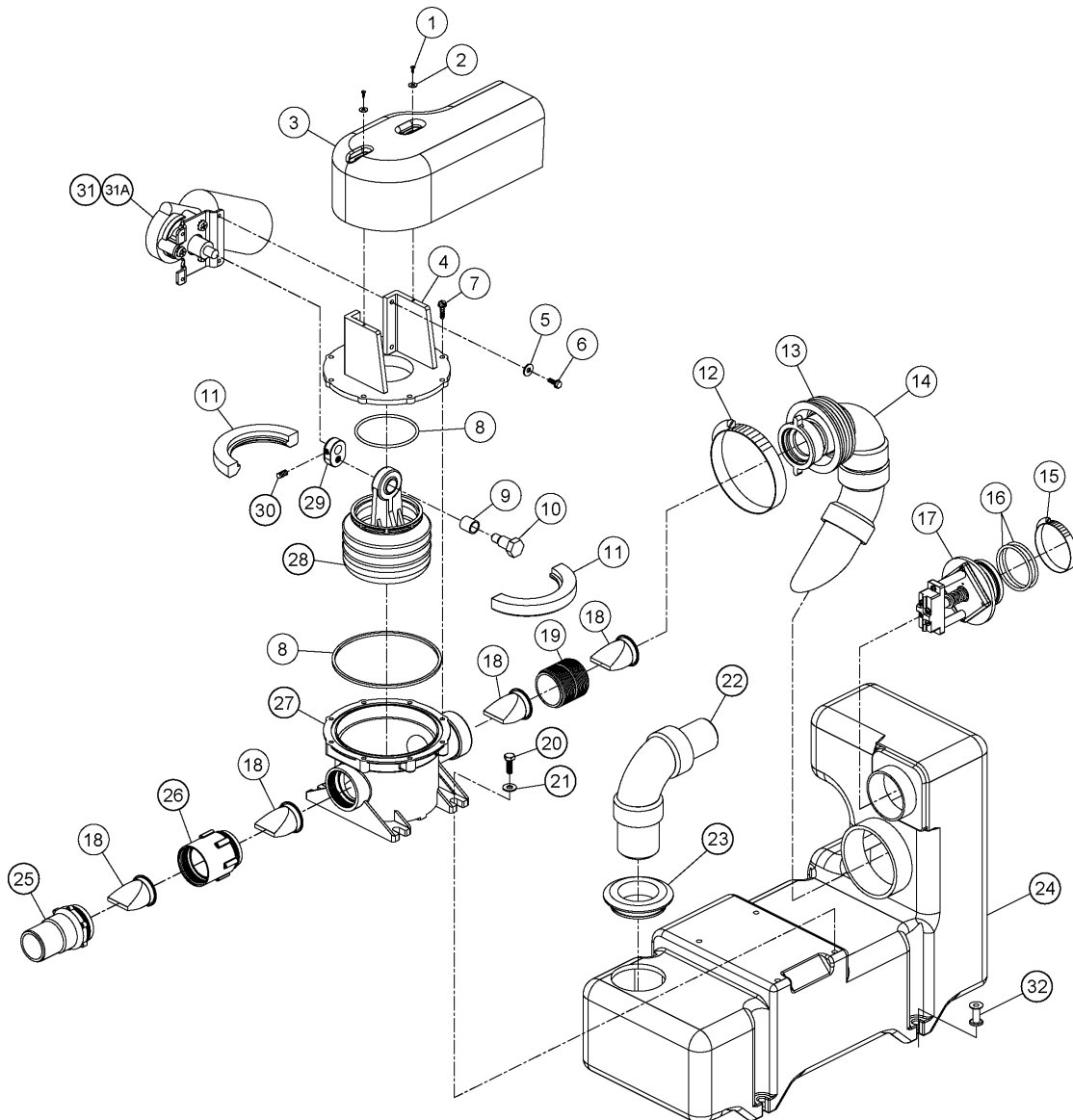
Item	1006	1008	1047	1048	Description
1	385344436	385344436	385344436	385344436	Seat Assembly, White
	385344437	385344437	385344437	385344437	Seat Assembly, Bone
	385344438	385344438		385344438	Seat Assembly, Ebony
2	385310615	385310615	385310615	385310615	China Bowl Kit, White
	385310616	385310616	385310616	385310616	China Bowl Kit, Bone
	385310585	385310585		385310585	China Bowl Kit, Ebony
3	385310048	385310048	385310048	385310048	Ring & Half Clamp Kit
4	385316140	385316140	385316140	385316140	Teflon® & Rubber Seal Kit
*5	385310132	385310126	385310665	385310129	Base Kit, White
	385310133	385310127	385310614	385310130	Base Kit, Bone
	385310607	385310171		385310172	Base Kit, Ebony
6	385310064	385316323	385316323	385316323	Mounting Kit
7	385310108	385310111	385310674	385310136	Pedestal Cover Kit, White
	385310109	385310112	385310613	385310137	Pedestal Cover Kit, Bone
	385310600	385310173		385310174	Pedestal Cover Kit, Ebony
8	385318864	385318741	385318741	385318741	Funnel Kit
9	385310117	385310114	385310114	385310114	Pedal Cover Kit, White
	385310118	385310115	385310115	385310115	Pedal Cover Kit, Bone
	385310593	385310175		385310175	Pedal Cover Kit, Ebony
10	385314349	385314349	385314349	385314349	Water Valve Kit
11	385310579	385310578	385310578	385310578	Flush Lever Kit (includes item 15)
12	385318162	385318162	385318162	385318162	Ball/Shaft/Cartridge Kit, White/Bone
	385310177	385310177		385310177	Ball/Shaft/Cartridge Kit, Ebony
13	600345377	600345377	600345377	600345377	Supply Hose, White
	600340177	600340177	600340177	600340177	Supply Hose, Bone
14	385316906	385316906	385316906	385316906	Vacuum Breaker Kit
15	385236096	385236096	385236096	385236096	Spring Cartridge Assembly
16	600341549	NA	NA	NA	Floor Flange Seal

* Includes items 3 through 12 & 15.

PARTS LIST

VACUUM GENERATOR

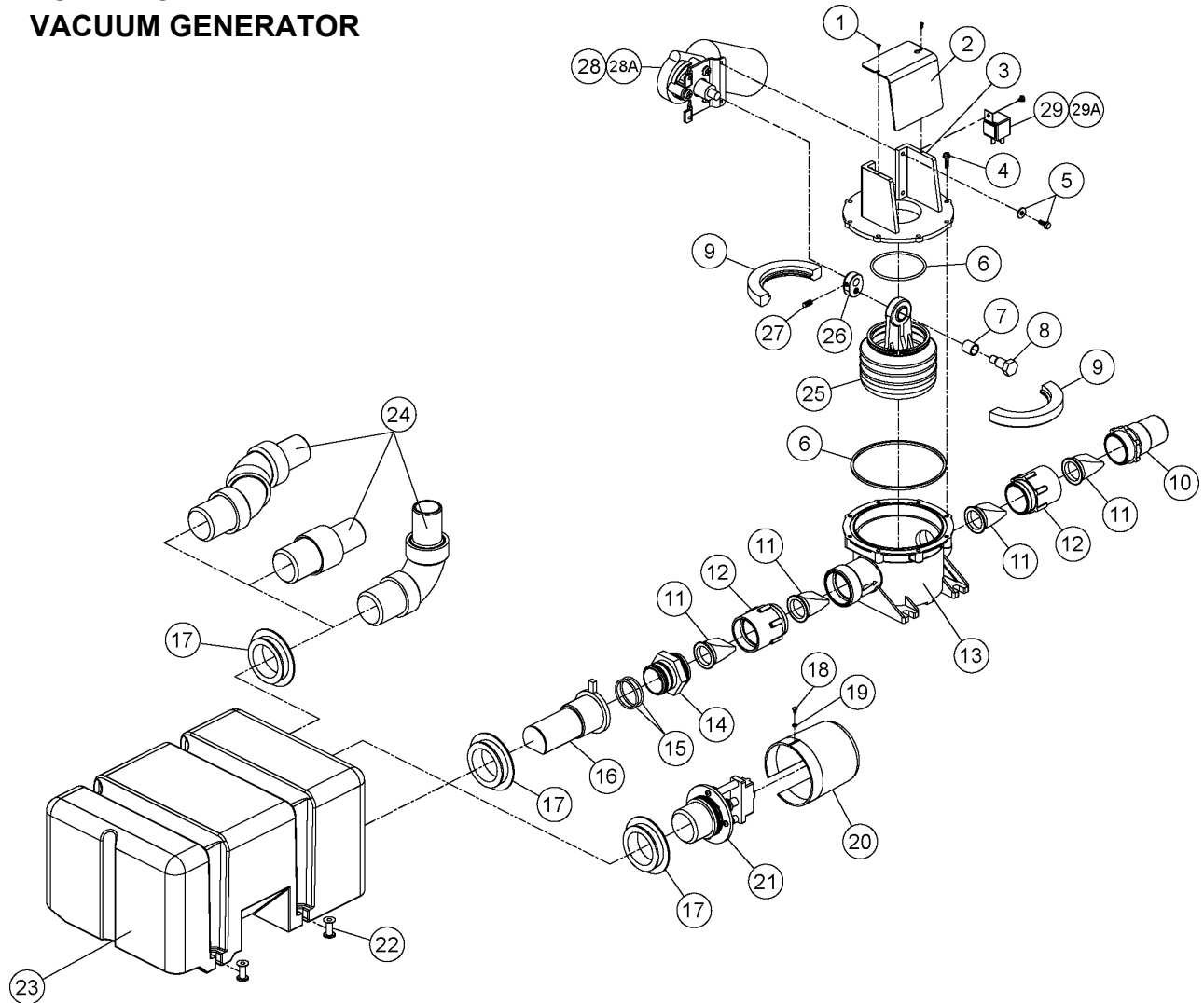
Item	Part No.	Description	Item	Part No.	Description
1	600340237	Pan Phillips Head Screw, #4 x 3/8", SS	19	600342789	1 1/2" NPT Close Nipple
2	600343027	Flat Washer, .312" OD x .030 Thick, SS	20	600342467	1/4-20 x 3/4" Hex Head Screw, SS
3	600342804	Motor/Switch Cover	21	600346795	Flat Washer, .625" OD x .281" ID x .050
4	600341506	Pump Top Closure	22	385310635	Inlet Elbow Kit (includes item 23)
5	600344087	Flat Washer, #10 x 5/8" OD, SS	23	600342932	1 1/2" Uniseal®
6	600342332	Hex Washer Head Screw, #10-32 x 1/2", SS	24	385310542	Vacuum Generator Tank
7	600341503	Hex Washer Head Screw, #10-12 x 7/8", SS	25	600347800	Valve Nipple
8	385310151	O-Ring Kit	26	600347801	Valve Adapter
9	600340664	Bushing	27	600341504	Pump Body
10	600343006	Shoulder Screw, 1/2 x .687 x 3/8-16	28	385230980	Bellows Assembly (includes item 9)
11	600347807	Bellows Clamp	29	600344470	Pump Eccentric
12	600342783	3-3/4" Diameter Worm Gear Clamp	30	600347788	1/4-28 x 5/16" Set Screw, 1/2 Dog Point
13	600342779	O-Ring, 3" ID x 3 1/4" OD	31	385310245	12 VDC Motor Kit
14	385310539	Diptube Assembly Kit (includes item 13)	31A	385310246	24 VDC Motor Kit
15	600342782	2 1/2" Diameter Worm Gear Clamp	32	600342798	Mounting Spindle
16	600342778	O-Ring, 2" ID x 2-1/4" OD	NS	385310774	Kit, VG Pump Assembly, 12VDC
17	385310540	Vacuum Switch Kit (includes items 15, 16)	NS	385310775	Kit, VG Pump Assembly, 24VDC
18	600347802	Duckbill Valve			



NOTE: When reassembling pump, tighten screw (Item No. 7), to 20 ±2 lbs., or until snug. Overtightening will cause holes to strip.

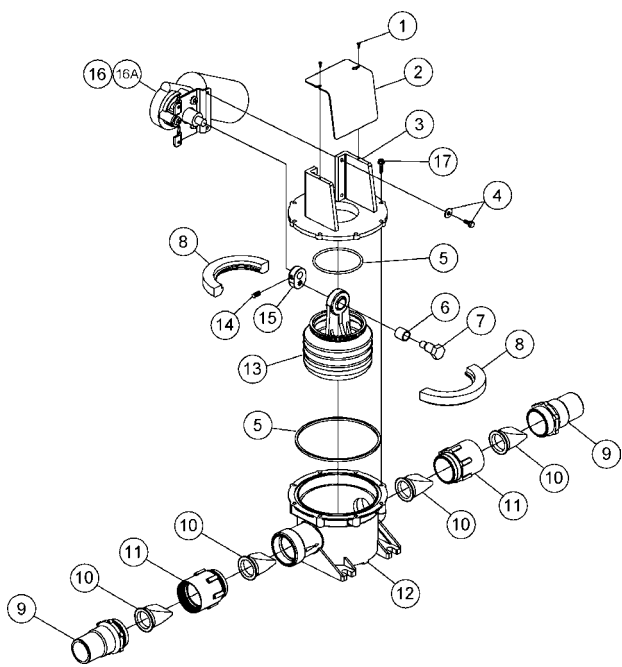
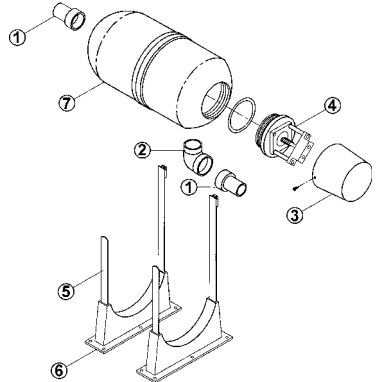
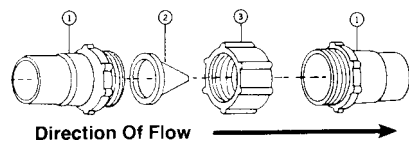
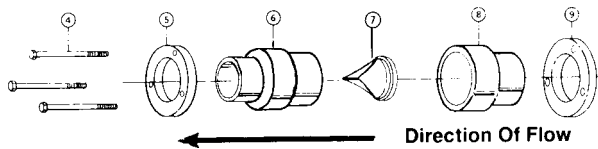
PARTS LIST

LOW-PROFILE VACUUM GENERATOR

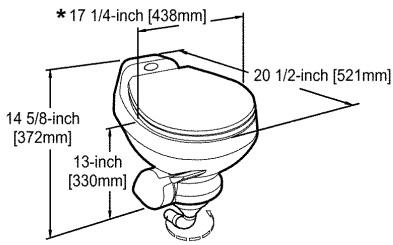


Item	Part No.	Description	Item	Part No.	Description
1	600340237	Pan Phillips Head Screw, #4 x 3/8", SS	19	600343027	Washer, #6 x 3/8"
2	385640239	Pump Cover	20	600343913	Vacuum Switch Cover
3	600341506	Top Closure	21	385310626	Vacuum Switch Kit
4	600341503	Hex Washer Head Screw, #10-12 x 7/8", SS	22	600342798	Mounting Spindles
5	600342332	Hex Washer Head Screw, #10-32 x 1/2", SS	23	385310755	Low-Profile Vacuum Tank
6	385310151	O-Ring Replacement Kit	24	385310635	Inlet Elbow Assembly
7	600340664	Bushing		385310690	Straight Inlet (Optional)
8	600343006	Shoulder Screw, 1/2" x .687 x 3/8-16		385310787	45° Inlet (Optional)
9	600347807	Bellows Clamp	25	385230980	Bellows Assembly
10	600347800	Valve Nipple	26	600344470	Pump Eccentric
11	600347802	Duckbill Valve	27	600347788	Set Screw, 1/4-28 x 5/16", 1/2 Dog Point
12	600347801	Valve Adapter	28	385310756	12 VDC Motor w/ Deutsch Connection
13	600341504	Pump Body		385310245	12 VDC Motor
14	600344676	Pump Fitting		385310757	24 VDC Motor w/ Deutsch Connection
15	600343936	O-Ring		385310246	24 VDC Motor
16	600344675	Diptube Kit – Low-Profile VG	29	600343053	Relay, SPDT 12 VDC 40/30 Amp, VF4
17	600342932	Uniseal® 1 1/2"	29A	600343053	Relay, SPDT 12 VDC 40/30 Amp, VF4
18	600343621	Pan Phillips Head Screw, #4 x 1/4"			

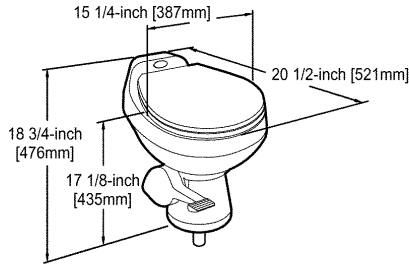
PARTS LIST

VACUUM PUMP, S-SERIES		Item	Part No.	Description
 <p>NOTE: S-Series pump valve adapter and nipple (items 9 and 11) have right-hand threads (clockwise to tighten, counterclockwise to loosen).</p>	1	600340237	Cover Screw, #4 x 3/8" Pan Hd SS	
	2	385640239	Pump Cover	
	3	600341506	Top Closure	
	4	600342332	Hex Head Screw, #10-32 x 1/2" SS	
	5	385310151	O-Ring Replacement Kit	
	6	600340664	Bushing, Bellows	
	7	600343006	Hex Head Shoulder Screw, 1/2" x .687 x 3/8"-16	
	8	600347807	Bellows Clamp	
	9	600347800	Valve Nipple	
	10	385347802	1/2" Duckbill Valve (2)	
	11	600347801	Valve Adapter	
	12	600341504	Pump Body	
	13	385230980	Bellows Assembly (incl. item 6)	
	14	600347788	Set Screw, 1/4 -28 x 5/16", 1/2" Dog Point	
	15	600344470	Eccentric	
	16	385310245	Motor, 12VDC	
	16A	385310246	Motor, 24VDC	
17	600341503	Hex Washer Head Screw #10-12 x 7/8", SS		
-	385310249	Not Shown Pump Assembly Less Motor (Includes items 3, 5, 6, 8 through 13)		
VACUUM TANK		Item	Part No.	Description
	1	307341513	Insert Adapter	
	2	307341161	Street Elbow	
	3	600348037	Vacuum Switch Cover	
	4	385318032	Vacuum Switch Assembly	
	5	600346835	Snap Lock Clamp	
	6	600348361	Mounting Bracket	
	7	385310017	Vacuum Tank Kit (Includes 2 each Item 1 and 1 each Item 2)	
SMALL IN-LINE CHECK VALVE		Item	Part No.	Description
 <p>Direction Of Flow →</p>	1	600347800	Valve Nipple	
	2	600347802	1 1/2" Duckbill Valve	
	3	600347839	Valve Adapter	
	4	600341015	Hex Head Screw	
	5	385640116	Pilot Collar	
	6	385230082	Male Valve Housing Assembly	
	7	600348702	2" Duckbill Valve	
	8	385640113	Female Valve Housing	
	9	385640115	Threaded Collar	
 <p>← Direction Of Flow</p>	308238696	Small In-line Check Valve (includes items 1 through 3)		
	308300011	Large In-line Check Valve (includes items 4 through 9)		

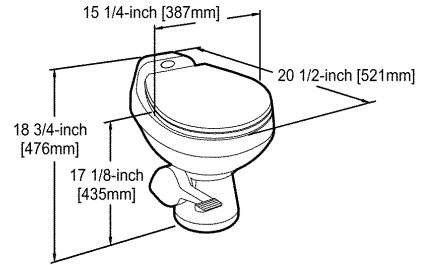
DIMENSIONAL SPECIFICATIONS



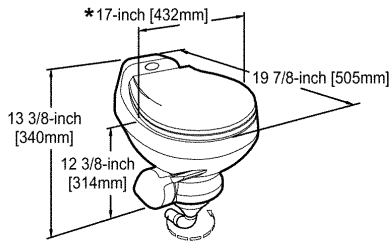
Model 506+



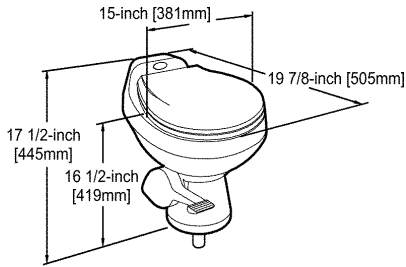
Model 508+



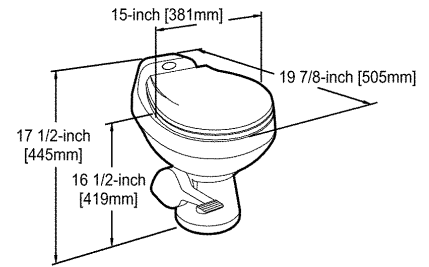
Model 547/548+



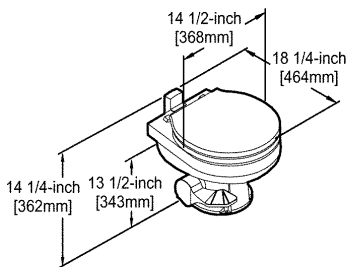
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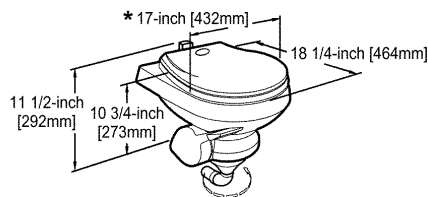
Model 1008



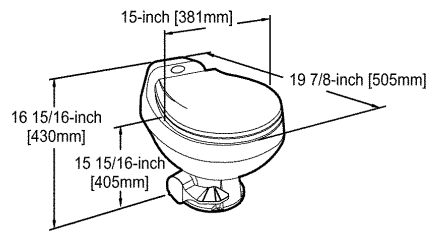
Model 1047/1048



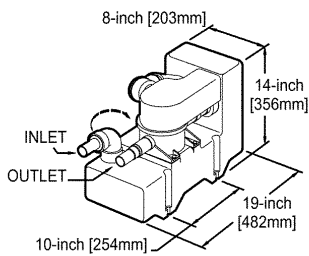
Model 147/148



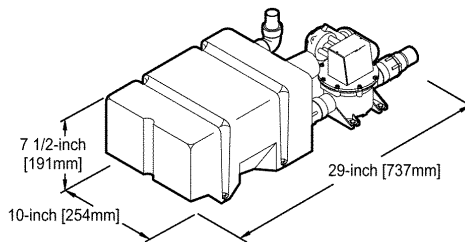
Model 706



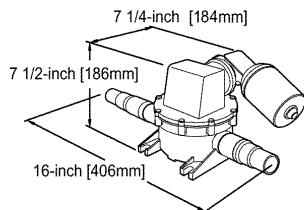
Model 1147/1148



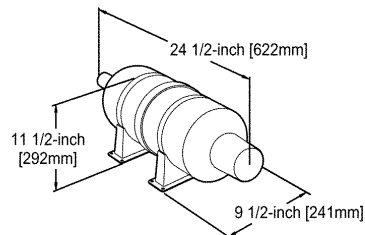
Vacuum Generator



Low-Profile Vacuum Generator



Vacuum Pump



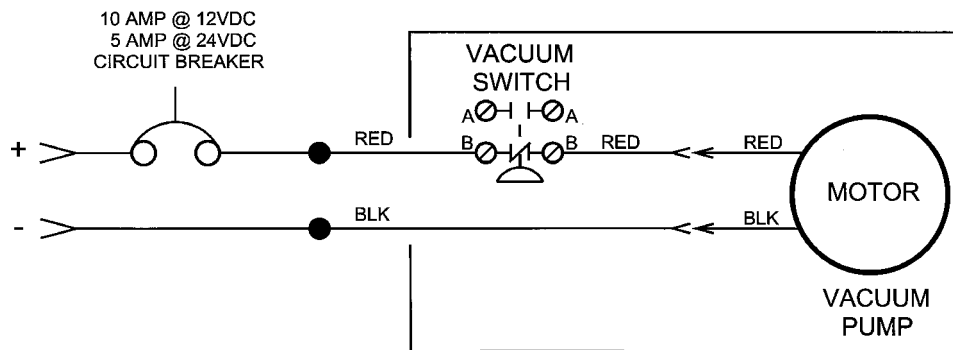
Vacuum Tank

* Width measurement includes flush pedal.

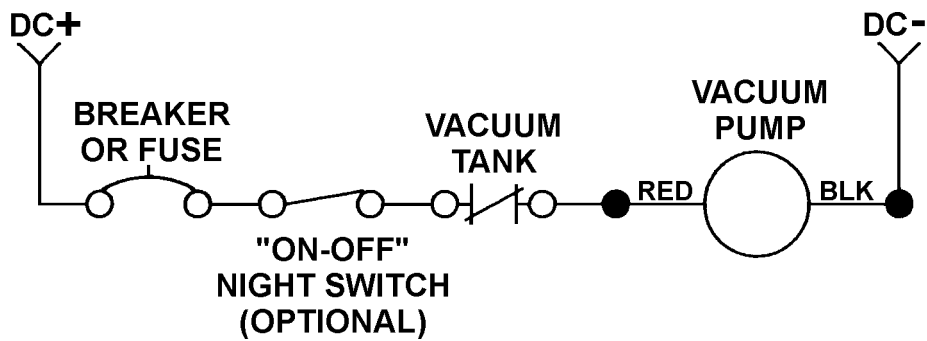
Toilet dimensions may vary $\pm 3/8$ -inch (10mm).

WIRING DIAGRAMS

VACUUM GENERATOR



VACUUM PUMP



PARTS DISTRIBUTORS

There is a strong, worldwide network to assist in servicing and maintaining your sanitation system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday. You may also write us at Dometic Corp., P.O. Box 38, Big Prairie Ohio 44611.

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You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the SeaLand product line.

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Contact: Bob Kennedy

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888-283-7606

E-mail: northeast@
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Fax: 281-474-2714
E-mail: rsmiller@aersupply.com
Contact: Richard Miller

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Environmental Marine
111 S.W. 23rd Street, Suite A
Fort Lauderdale, FL 33315
Tel: 954-522-2626
800-522-2656
Fax: 954-522-5152
E-mail:
info@environmentalmarine.com
Contact: John or Jill Hopkins

U.S.A. - Southwest (AZ, CO, NV, UT, CA-south)

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Costa Mesa, CA 92627
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Contact: Rick Glasser

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La Crosse, WI 54603
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E-mail:
dave@powerhousemarine.com
Contact: Dave Tucker

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San Fernando
PCIA, De Buenos Aires
Tel: 5411 4580 0444
Fax: 5411 4580 0440
E-mail: trimer@trimer.com.ar
Contact: Carlos Friedlander
or Pablo Villar

Australia

Dometic Pty Ltd
6 Treforest Drive
Clayton, Victoria 3168
PO Box 1140
Clayton South, Victoria 3169
Tel: (03) 9545 5655
Fax: (03) 9545 5966
Email:
dometic@dometic.com.au
Contact: Petra Bach

Austria

Ocean Marine
See **Germany**

Belgium

Auerhaan B.V.
See **The Netherlands**

Canada - East

Eastern Marine Systems, Inc.
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Toronto, Ontario M4M 3H7
Tel: 416-465-1668
888-764-1111
Fax: 416-465-2098
E-mail: info@eastmar.com
Contact: Paul Gales

Canada - West

Western Marine Company
1494 Powell Street
Vancouver, BC V5L 5B5
Tel: 604-253-7721
800-663-0600
Fax: 604-253-2656
800-663-6790
E-mail: sales@
westernmarine.com
Contact: Bill Falk

Caribbean

Budget Marine
P.O. Box 434
25B Waterfront Road
Cole Bay, Philipsburg
St. Maarten
Netherlands Antilles
Tel: 599 5 43134
Fax: 599 5 44409
Contact: Jackie Leech

Denmark

Dometic Origo AB
See **Sweden**

Finland

Nautikulma Oy
Lantinen Pitkatkatu 33
20100 Turku
Tel: 358 2 250 3444
Fax: 358 2 251 8470
E-mail: nautikulma@kolumbus.fi
Contact: Teppo Siitola

France

Kent Marine Equipment
3 rue de la Dutee - BP 207
44815 Saint-Herblain
Tel: 33 2 40 92 15 84
Fax: 33 2 40 92 13 16
Contact: Luc Tavolini

Germany

Ocean Marine
Wendenstrasse 429
20537 Hamburg
Tel: 49 (0) 40 219 1042
Fax: 49 (0) 40 219 1114
E-mail: info@ocean-marine.de
Contact: Thorsten Lentz

Greece

Amaltheia
13 Papaflessa Str.
143 43 N. Halkidona
Athens-Greece
Tel: 30 (210) 25 88 985
Fax: 30 (210) 25 88 986
E-mail: amalmar@otenet.gr
Contact: Dimitris Kyriazes

Hong Kong

Funcle Ltd.
G/F, 81D, Pak Shek Terrace
Clearwater Bay Road
Sai Kung
Tel: 852 2335 0482
Fax: 852 2335 0580
Contact: Alan Reid

Italy

SVAMA Nautica s.r.l.
Via Del Lavaro 25/A2
48015 Montaletto Di Cervia
(Ravenna)
Tel: 390 544 965689
Fax: 390 544 965734
E-mail: svama-nautica@
svama-nautica.com
Contact: Claudio Casadio

Japan

Tominaga & Co., Ltd.
2-6-8 Nishitenma
Kita-ku, Osaka 530
Tel: 81 (06) 365 5010
Fax: 81 (06) 365 6294
E-mail: nishi@mail.tomco.jp
Contact: A. Tatsumi

Luxembourg

Auerhaan B.V.
See **The Netherlands**

The Netherlands

Auerhaan B.V.
P.O. Box 22, 8200 AA Lelystad
Platinastraat 15
8211 AR, Lelystad
Tel: 31 (0) 320-286171
Fax: 31 (0) 320-286170
E-mail: accessoires@
auerhaan.nl
Contact: Bert van Loenen

Netherlands Antilles

Budget Marine
P.O. Box 434
25B Waterfront Road
Cole Bay, Philipsburg
St. Maarten
Tel: 599 5 43134
Fax: 599 5 44409
Contact: Jackie Leech

New Zealand

Lusty & Blundell Ltd.
38 Tawa Drive
Albany, Auckland
Tel: 64 (09) 415 8303
Fax: 64 (09) 415 8304
Contact: Mike Harris

Norway

Dometic Origo AB
See **Sweden**

Philippines

Solid Sales Philippines
31 Horseshoe Drive
Banawa Hills, Cebu City 6000
Tel: 63 32 255 3002
Fax: 63 32 255 3001
E-mail: ssphils@
cebu.pw.net.ph
Contact: Andy Y. Lim

Sardinia and Sicily

SVAMA Nautica
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Singapore

Marina Yacht Services Pte.Ltd.
No. 10 Tuas West Drive
#01-01 to 04 Raffles Marina
Singapore 638404
Tel: 65 862 4320
Fax: 65 862 4431
Contact: Johnny Lim

Spain, Balearic & Canary Islands

Dahlberg Sociedad Anonima
Nicolau de Pacs, 32
07006 Palma de Mallorca
Tel: 34 971 774751
Fax: 34 971 771458
E-mail: sealand@
dahlberg-sa.com
Contact: Rosa Dahlberg

Sweden

Dometic Origo AB
Söndrumsvägen 35
SE-302 39 Halmstad, Sweden
Tel: 46 (0) 35 17 57 00
Fax: 46 (0) 35 17 57 10
E-mail: info@origo-sweden.com
Contact: Johan Edlund

Switzerland

Ocean Marine
See **Germany**

Taiwan

Mercury Marine Supply
No 488
Ming Chuan 2nd Road
Chyan Jenn District
806 Kaohsiung
Tel: 886 (07) 331 7293
Fax: 886 (07) 332 4232
E-mail: mms46654@
ms16.hinet.net
Contact: Mercury Liu

Turkey

Marina Deniz Araclari
Fener Kalamis CAD. No:75
Fenerbahce 81030
Istanbul
Tel: 90 (0) 216 338 14 41
Fax: 90 (0) 216 337 44 92
E-mail: aylan@seperonline.com
Contact: Isik Aylan

United Kingdom

Lee Sanitation
Fenny Compton
Wharf Road, Warwickshire
CV47 2FE
Tel: 44 (0) 1295 770000
Fax: 44 (0) 1295 770022
E-mail: sales@leesan.com
Contact: Chris Coburn

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Dometic Corporation • Sanitation Systems

13128 State Rt. 226, P.O. Box 38

Big Prairie, OH 44611-0038 USA

330-496-3211

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